

REMARKS

Claims 8 to 14 and 16 to 22 are currently pending and being considered (since claim 15 was previously withdrawn in response to a restriction requirement).

Reconsideration of the application is respectfully requested based in the following.

Claims 20, 21, and 22 were rejected under 35 U.S.C. § 112, first paragraph, as to the written description requirement.

As to claim 20 and the claim feature of “a completely sealed housing”, it is respectfully submitted that this feature is fully supported, for example, at page 3, lines 12 to 18, of the present application. This portion of the specification clearly describes “a sealed housing” formed by the region 21 of the stepped head wire, the press-fit base 11, and a sleeve 22. Further, this housing is clearly depicted in Figs. 1 and 2 of the present application.

Notwithstanding the foregoing, to facilitate matters, claim 20 has been rewritten herein, without prejudice, to recite the feature of “the press-fit base with a mounting region, the sleeve and an outer surface region of the stepped wire connection form a sealed housing.”

As to claim 21, the claim features of “no more than about 0.323 grams” and “no more than about 0.242 grams” are fully supported, for example, at page 4, lines 15 to 19 of the present application. As stated in the MPEP, § 2163.02, with respect to the standard for determining compliance with the written description requirement, “the fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed.” The Specification recites the claimed quantities of the claimed materials, and the Specification makes clear that an advantage of the claimed subject matter is “that the quantity of the encapsulating material may be reduced.” (Specification, page 2, lines 3 to 7.) One skilled in the art would recognize that any quantity of encapsulating material below the stated amounts was in possession of the inventors as of the filing of this application.

As to claim 22, it is fully supported for at least the reasons explained as to claims 20 and 21.

Withdrawal of the rejections is therefore respectfully requested.

Claims 8, 11, 12, 13, and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,160,309 (“Le”) in view of U.S. Patent Application Publication No. 2002/0011661 (“Terasaki et al.”).

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Also, as clearly indicated by the Supreme Court in *KSR*, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *See KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, at 1396. Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 8, as presented, is to a diode, and includes a press-fit base including an axially extending mounting region to mount a semiconductor chip, a head wire provided with a head configured to be affixed to the semiconductor chip, and a stabilization arrangement which includes at least a sleeve and an encapsulating material filling cavities, in which the head wire includes a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a sealed housing, the cavities of the housing being filled with encapsulating material. In this respect, Figs. 1 and 2 display this region (21), and the Substitute Specification at page 3, lines 9 to 16, describes this feature. In this way, less epoxy may be used, and the fire risk may be reduced when the diode is overloaded, as explained in the Substitute Specification of the present application. Claims 12, 16, and 18 have been similarly rewritten.

In contrast, the Le reference does not disclose nor even suggest the feature of a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a sealed housing, as provided for in the context of the presently claimed subject matter. Clearly, the Le reference does not disclose the forming of the sealed housing of claim

8. The encapsulant 206 of figure 1 of the Le reference is left completely exposed and unhoused on the top 222. The Terasaki reference also does not cure this critical deficiency of the primary reference. The protuberance 6c of the secondary Terasaki reference is not shown to form a sealed housing. Indeed, all of Figures 1, 2, and 9 through 14 of the Terasaki reference indicate that the insulating member 7 is not enclosed within a sealed housing -- and is instead free to flow outside of the protuberance 6c, side wall 3a, and support electrode body 3.

The Final Office Action asserts that one cannot show obviousness by attacking references individually. Here, however, the reference do not disclose the feature of a sealed housing -- and the combination of the Le and Terasaki references does not disclose, or even suggest, a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a sealed housing, as provided for in the context of the claimed subject matter.

Accordingly, the proposed combination of the Le and Terasaki references does not disclose, or even suggest, the feature of a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a sealed housing, as provided for in the context of claim 8.

It is therefore respectfully submitted that claim 8, as presented, is allowable, as are its dependent claims 11 to 14.

Withdrawal of the rejections is therefore respectfully requested.

Claims 9 and 10 were rejected under 35 U.S.C. § 103(a) as unpatentable over the Le reference in view of the Terasaki reference, further in view of U.S. Patent No. 6,274,823 ("Khandros et al.").

Claims 9 and 10 depend from independent claim 8, as presented, and are therefore allowable for essentially the same reasons as claim 8, as presented, since the third-level Khandros reference does not cure -- and is not asserted to cure -- the critical deficiencies of the Le and Terasaki references as to claim 8. That is, the proposed combination of the Le, Terasaki, and Khandros references does not disclose, or even suggest, the feature of a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a sealed housing, as provided for in the context of claim 8, from which claims 9 and 10 depend.

Withdrawal of the rejections is therefore respectfully requested.

Claims 16 to 19 were rejected under 35 U.S.C. § 103(a) as unpatentable over Le in view of Terasaki, further in view of Khandros et al.

Claim 16 includes features like those of claim 8, as presented, and it also includes the features of claims 9 and 11. As explained above, the proposed combination of the Le and Terasaki references does not disclose, or even suggest, all of the features of claim 16. Further, since the third-level Khandros reference does not cure -- and is not asserted to cure -- the critical deficiencies of the Le and Terasaki references as to claim 16, the proposed combination of the Le, Terasaki, and Khandros references does not disclose, or even suggest, the feature of a stepped wire connection having a region, which together with the sleeve and the press-fit base forms a sealed housing, as provided for in the context of claim 16.

Accordingly, it is respectfully submitted that claim 16 is allowable for at least the same reasons as claim 8 (and claims 9 and 11), as are its dependent claims - claim 17 (features correspond to claim 10), claim 18 (features correspond to claims 12 and 13), and claim 19 (features correspond to claim 14).

As further regards all of the obviousness rejections, any Official Notice is respectfully traversed to the extent that it is maintained and it is requested that the Examiner provide specific evidence to establish those assertions and/or contentions that may be supported by the Official Notices under 37 C.F.R. § 1.104(d)(2) or otherwise. In particular, it is respectfully requested that the Examiner provide an affidavit and/or that the Examiner provide published information concerning these assertions. This is because the § 103 rejections are apparently being based on assertions that draw on facts within the personal knowledge of the Examiner, since no support was provided for these otherwise conclusory and unsupported assertions. (See also MPEP § 2144.03).

Withdrawal of the rejections is therefore respectfully requested.

In sum, claims 8 to 14 and 16 to 22 are allowable.

CONCLUSION

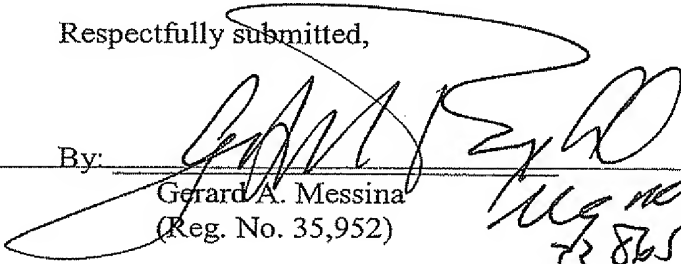
Applicants respectfully submit that all pending and considered claims 8 to 14 and 16 to 22 of the present application are allowable. It is therefore respectfully requested that the rejections (and any objections) be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,

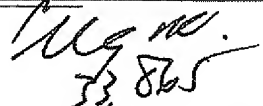
Dated: _____

7/1/2009

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